

**ABSTRACT OF THE DISCLOSURE**

[1038] The present application describes a system and method for testing semiconductor devices and specifically for testing mixed signal semiconductor devices. The test systems are configured to test the semiconductor devices using overlapping test setups by configuring various test system elements. The various test system elements are programmed and prepared for subsequent tests concurrently with tests executing on the semiconductor devices. The test results are computed by various software computation modules configured to independently execute in parallel with the subsequent tests. The resultant test data of an executed test is shared among the various concurrently executing software computation modules using shared information storage. A tester user interface, executing on test system, provides an interface between user test scripts and software computation modules. Therefore, separating complex computations and data compilation from test execution in the test system results in significantly faster and efficient semiconductor device testing.